

User Selected Options
From File
Full Precision
Confidence Coefficient
Number of Bootstrap Operations

PCBs in Place at Aspire May 2012

General Statistics
Number of Valid Observations

71 Number of Distinct Observations 18

Raw Statistics

Minimum
Maximum
Mean
Median
SD
Coefficient of Variation
Skewness

Log-transformed Statistics

0.01	Minimum of Log Data	-4.605
0.94	Maximum of Log Data	-0.0619
0.0863	Mean of log Data	-3.248
0.03	SD of log Data	1.077
0.162		
1.872		
3.473		

Relevant UCL Statistics

Normal Distribution Test
Lilliefors Test Statistic
Lilliefors Critical Value
Data not Normal at 5% Significance Level

Lognormal Distribution Test

0.411	Lilliefors Test Statistic	0.369
0.105	Lilliefors Critical Value	0.105
	Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution

95% Student's-t UCL
95% UCLs (Adjusted for Skewness)
95% Adjusted-CLT UCL (Chen-1995)
95% Modified-t UCL (Johnson-1978)

Assuming Lognormal Distribution

0.118	95% H-UCL	0.0936
	95% Chebyshev (MVUE) UCL	0.115
0.126	97.5% Chebyshev (MVUE) UCL	0.135
0.12	99% Chebyshev (MVUE) UCL	0.174

Gamma Distribution Test

k star (bias corrected)
Theta Star
MLE of Mean
MLE of Standard Deviation
nu star
Approximate Chi Square Value (.05)
Adjusted Level of Significance
Adjusted Chi Square Value

Data Distribution

0.727 Data do not follow a Discernable Distribution (0.05)

0.119

0.0863

0.101

103.3

80.82 Nonparametric Statistics

0.0466	95% CLT UCL	0.118
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80.41	95% Jackknife UCL	0.118
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	95% Standard Bootstrap UCL	0.117
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10.43	95% Bootstrap-t UCL	0.134
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0.793	95% Hall's Bootstrap UCL	0.131
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0.419	95% Percentile Bootstrap UCL	0.12
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0.11	95% BCA Bootstrap UCL	0.128
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Data not Gamma Distributed at 5% Significance Level 95% Chebyshev(Mean, Sd) UCL 0.17
97.5% Chebyshev(Mean, Sd) UCL 0.206
99% Chebyshev(Mean, Sd) UCL 0.277

Assuming Gamma Distribution

95% Approximate Gamma UCL 0.11
95% Adjusted Gamma UCL 0.111

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL

0.17

In-Place PCB Samples

Aspire School Site

Oakland, California

ProUCL processed

Sample ID	Date Sampled	PCBs mg/kg
EXC-PCB-1 N-SIDEWALL 2' WEST 2	11/10/2009	0.07
EXC-PCB-1 S-SIDEWALL 2' EAST	11/4/2009	0.03
EXC-PCB-1 S-SIDEWALL 2' WEST	11/4/2009	0.03
EXC-PCB-1 N-SIDEWALL 2' WEST	11/6/2009	0.03
EXC-PCB1 N-SDWALL-2'-EAST2	11/11/2009	0.03
EXC-PCB-1 E-SIDEWALL 2' NORTH	11/6/2009	0.03
EXC-PCB-1 E-SIDEWALL 2' SOUTH	11/6/2009	0.03
EXC-PCB1 E-SDWALL-2'-NORTH2	11/11/2009	0.03
EXC TPH/PCB1 S-SDWALL2'-EAST-R	11/18/2009	0.03
EXC TPH/PCB1 N-SDWALL2'-WEST-R	11/21/2009	0.03
EXC TPH/PCB1 S-SDWALL2'-WEST-R	11/18/2009	0.03
EXC TPH/PCB1 W-SDWALL2'-SOUTH-R2	11/24/2009	0.03
EXC TPH/PCB1W-SDWALL2'-NORTH-R	11/24/2009	0.03
EXC-PCB-2 W-SIDEWALL 2'	11/4/2009	0.03
EXC-PCB-2 E2-SIDEWALL 2'	11/10/2009	0.03
EXC-PCB-2 S-SIDEWALL 2'	11/4/2009	0.03
EXC-PCB-2 N-SIDEWALL 2'	11/4/2009	0.03
EXC PCB3-E1-SDWALL2'R1	12/8/2009	0.03
EXC PCB3-E2-SDWALL2'	11/23/2009	0.03
EXC PCB3-W3-SDWALL2'	11/23/2009	0.03
EXC PCB4-N-SDWALL2'	11/21/2009	0.08
EXC-PCB4-N2-SDWALL2'	11/21/2009	0.03
EXC PCB4-S1-SDWALL2'R1	12/8/2009	0.23
EXC PCB4-W-SDWALL2'R1	12/8/2009	0.07
EXC PCB4-E-SDWALL2'	11/21/2009	0.12
EXC4-50'NORTH3-SDWALL1'-R	11/30/09	0.25
EXC4-SOUTH3-SDWALL1'	11/21/09	0.03
EXC4-SOUTH4-SDWALL1'	11/21/09	0.02
EXC4-SOUTH5-SDWALL1'	11/21/09	0.03
EXC4-SOUTH6-SDWALL1'	11/21/09	0.03
EXC4-SOUTH7-SDWALL1'	11/21/09	0.03
EXC-4-South-4A-SDWALL1'	11/30/09	0.03
EXC-4-South-4B-SDWALL1'	11/30/09	0.03
EXC4-EAST1-SDWALL1'	11/21/09	0.69
EXC4-EAST2--SDWALL1'	11/19/09	0.03
EXC4-EAST3--SDWALL1'	11/19/09	0.03
EXC4-EAST4--SDWALL1'	11/19/09	0.03
EXC4-EAST5--SDWALL1'	11/19/09	0.03
EXC4--25'-North7-SDWall--SDWALL1'	11/19/09	0.33
EXC4-EAST6-SDWALL1'	11/21/09	0.03

In-Place PCB Samples

Aspire School Site

Oakland, California

ProUCL processed

Sample ID	Date Sampled	PCBs mg/kg
EXC4-EAST7-SDWALL1'	11/21/09	0.03
EXC4-EAST8-SDWALL1'	11/21/09	0.03
PD-1	05/28/10	0.37
PD-2	05/28/10	0.94
PD-3	05/28/10	0.34
PD-4	05/28/10	0.32
PD-5	05/28/10	0.21
PD-6	05/28/10	0.54
PD-7	05/28/10	0.10
Sewerline A-0	3/24/2010	0.03
Sewerline A-50	3/24/2010	0.03
Sewerline A-100	3/25/2010	0.03
Sewerline B-50	3/25/2010	0.03
Sewerline C-50	3/26/2010	0.03
PD3-EXC-NORTH 2'	10/27/2010	0.01
PD3-EXC-SOUTH 2'	10/27/2010	0.01
PD3-EXC-EAST 2'	10/27/2010	0.01
PD3-EXC-WEST 2'	10/27/2010	0.01
PD3-EXC-BOTTOM 2'	10/27/2010	0.01
PD3-EXC-NORTH 2'	10/27/2010	0.01
PD4-EXC-SOUTH 2'	10/27/2010	0.01
PD4-EXC-EAST 2'	10/27/2010	0.02
PD4-EXC-WEST 2'	10/27/2010	0.01
PD4-EXC-BOTTOM 2'	10/27/2010	0.06
PD5-EXC-NORTH 2'	10/27/2010	0.01
PD5-EXC-SOUTH 2'	10/27/2010	0.01
PD5-EXC-EAST 2'	10/27/2010	0.01
PD5-EXC-WEST 2'	10/27/2010	0.03
PD5-EXC-BOTTOM 2'	10/27/2010	0.03
EXC PCB3-N-SDWALL2'R1	12/8/2009	0.03
EXC-4-South-4C-SDWALL1'	11/30/09	0.03

Human Health Risk Screen
 Comparison to Health Based Goals
 Aspire School
 Oakland, California
 Concentrations in milligrams per kilogram

COPC	Cleanup Goal	Post Removal Action Representative Concentration	Estimated Risk	Estimated Hazard
			Based on Representative Concentration	Based on Representative Concentration
TPHd	450	138	--	0.31
TPHmo	800	894	--	1.1
benzo(a)pyrene	0.13	NA	NA	NA
Benzo(a)anthracene	1.3	NA	NA	NA
Benzo(k)fluoranthene	1.3	0.11	8.E-08	--
chrysene*	21	0.19	9.E-09	--
Naphthalene	2.8	NA	NA	NA
Benzene*	0.27	0.012	4.E-08	0.04
Arsenic	7	8.8	--	NA
Lead	80	62	--	NA
PCBs	0.13	0.17	1.3E-06	1.3
Totals			1.4E-06	3.E+00

* Fewer than 6 detections; maximum concentration used for representative concentration
 NA = not applicable, no detections above analytical reporting limits

COPC = chemical of potential concern

TPH = total petroleum hydrocarbon